

**Seasonal Outlook
Great Lakes
Winter 2015-2016**



Issued by the North American Ice Service

1 December 2015

Lake Superior

Winter temperature and ice forecasts.

Above average air temperatures are forecast for the 2015-2016 winter season. Below normal ice coverage is expected.

Thunder Bay.

Outlook for December... By the end of the month, very open drift new and thin lake ice along the shores. Open drift new and thin lake ice west of Pie Island.

Outlook for January... By mid-month, open drift to close pack thin and medium lake ice. At the end of January, very close pack medium and thin lake ice except consolidated medium lake ice over the northeastern section.

Outlook for February...Consolidated medium lake ice will become thick lake ice in the second week.

Nipigon and Black Bays.

Outlook for December... By mid-month, very close pack new and thin lake ice over northern Black Bay. At the end of the month, consolidated thin and medium lake ice over northern section of Black Bay. Close pack to very close pack new and thin lake ice over southern Black Bay and western Nipigon Bay.

Outlook for January...In the first week, the majority of Black Bay will be consolidated thin and medium lake ice and consolidated medium lake ice over western Nipigon Bay. Ice thickening to consolidated thick lake ice in the third week.

Outlook for February...Consolidated with thick lake ice.

From Grand Marais Minnesota to the entrance to Nipigon Bay.

Outlook for December...Open water.

Outlook for January...In the last week, very open drift to open drift new lake ice with some medium lake ice along the shore.

Outlook for February...By mid-month, becoming open drift to close pack medium lake ice with some thick lake ice north of Isle Royale. Elsewhere, very open to open drift thin and medium lake ice within 15 nautical miles of the shore.

From Grand Marais to Duluth.

Outlook for December...Open water.

Outlook for January...Generally open water. By the end of the month, close pack thin lake ice with some medium lake ice within 20 nautical miles of Duluth.

Outlook for February...In the second week, very open drift to open drift thin lake ice with some medium lake ice within 20 nautical miles of the shore. Close pack medium with some thick lake ice within 20 nautical miles of Duluth.

Southern Lake Superior west of Keweenaw Peninsula.

Outlook for December...Generally open water. Very close pack thin lake ice in Chequamegon Bay by the end of the month.

Outlook for January...In the first week, thin lake ice becoming consolidated in Chequamegon Bay. By mid-month, new and thin lake ice forming within 10 nautical miles of the shore from Duluth to the Keweenaw Peninsula. Consolidated thin lake ice in the Apostle Islands. By the end of the month, thin lake ice with some medium lake ice

within 20 nautical miles of the shore. Consolidated ice thickening to medium lake ice near the Apostle Islands.

Outlook for February...Consolidated ice in Chequamegon Bay and near the Apostle Islands thickening to thick lake ice by the second week. Close pack thin and medium lake ice with isolated areas of thick lake ice extending up to 25 nautical miles offshore after the third week.

Southern Lake Superior east of the Keweenaw Peninsula.

Outlook for December...Ice free to open water.

Outlook for January... Narrow band of new and thin lake ice will form along the shore by the end of the month.

Outlook for February... Narrow band of new and thin with some medium lake ice along the shore. Very open drift to open drift thin and medium lake ice up to approximately 30 nautical miles eastward of the Keweenaw Peninsula. Near the end of the month, open drift to close pack thin and medium lake ice will extend 15 to 25 nautical miles offshore. Consolidated thick lake ice along portions of the shore.

Whitefish Bay.

Outlook for December...New and thin lake ice forming in the northeastern section near the end of the month.

Outlook for January...By mid-month, consolidated medium lake in the southern and eastern sections. Close pack thin lake ice over the southeastern section and open drift thin lake ice over the northwestern portion.

Outlook for February...In the second week, very close pack medium lake ice except for consolidated thick lake ice in the southern and eastern sections. Near the end of the month, consolidated medium lake ice will become consolidated thick lake ice. Very close pack medium and thick lake ice elsewhere.

From Whitefish Bay northwards to Michipicoten Bay.

Outlook for December...Open water.

Outlook for January...Open water except patches of new lake ice with some thin lake ice along portions of the shore.

Outlook for February...Close to very close pack thin lake ice with some medium lake ice along portions of the shore by mid-month.

From Michipicoten Bay to the entrance to Nipigon Bay.

Outlook for December...Ice free to open water.

Outlook for January...Open water except isolated strips and patches of new lake ice with some thin lake ice along portions of the shore.

Outlook for February...Isolated patches of thin lake ice with some medium lake ice along portions of the shore.

Elsewhere in Lake Superior.

Outlook for December...Ice free to open water.

Outlook for January...Ice free to open water.

Outlook for February...Open water. By the end of the month, occasional open drift to close pack medium and thin lake ice over the central portion of the lake west of the Keweenaw Peninsula.

Lake Michigan.

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Green Bay.

Outlook for December...In the third week open drift new and thin lake ice in the southern third of the bay. By the end of the month, consolidated thin lake ice in the Bays de Noc and close pack new and thin lake ice in the southern third of the bay.

Outlook for January...By mid-month, consolidated medium lake ice in the Bays de Noc and in the southern third of Green Bay. Elsewhere, open drift to close pack thin lake ice.

Outlook for February...In the second week, consolidated ice in Green Bay and the Bays de Noc becoming thick lake ice. Close to very close pack medium and thick lake ice over the northern third of Green Bay.

Northeastern Lake Michigan.

Outlook for December...Ice free to open water.

Outlook for January...By mid-month, very close pack thin lake ice to up to 20 nautical miles off the northeastern shore and near the Straits of Mackinac. Patches of new and thin lake ice will spread from the north shore to Beaver Island. At the end of the month very close pack thin and medium lake ice from the northeast shore to Beaver Island. Patches of open drift to close pack new and thin lake ice will spread westward to the entrance to Green Bay.

Outlook for February...In the first week, consolidated medium lake forming along the northeast shore and in the Straits of Mackinac. Ice becoming thick lake ice northeast of Beaver Island and in the Straits of Mackinac by mid-month. Very close pack medium lake ice in Little Traverse Bay.

Elsewhere in Lake Michigan.

Outlook for December...Ice free to open water.

Outlook for January... By the end of the month, patches of new and thin lake ice along the southern and southeastern shores of the lake.

Outlook for February...Patches of thin and medium lake ice along the southern and southeastern shores of the lake. Ice destruction will begin in the second half of February. Isolated patches of ice are expected to be present along the southern and southeastern shores at the end of the month.

Lake Huron and Georgian Bay.

Winter temperature and ice forecasts.

Above normal temperatures are expected over Lake Huron from December to February. Below normal ice conditions are forecast.

North Channel.

Outlook for December... By the end of the month, very close pack new and thin lake ice in sheltered bays.

Outlook for January...By mid-month, very close pack new and thin lake ice with some medium lake ice in a narrow band along the northern shore and in the eastern and

western sections of the channel. Consolidated medium lake ice in sheltered bays. The channel will be completely ice covered at the end of the third week. At that time, the eastern and western ends of the channel will be consolidated with medium lake ice. Channel will be consolidated by the end of the month.
Outlook for February...Consolidated with thick lake ice.

St Mary's River.

Outlook for December...Open drift to close pack new and thin lake ice in the shallower portions of the river by mid-month. By the end of the month, consolidated thin lake ice in the shallower portions and open drift to close pack thin lake ice elsewhere.
Outlook for January...Consolidated with medium lake ice by mid-month.
Outlook for February...Consolidated thick lake ice.

South of Manitoulin Island westward to North-western Lake Huron.

Outlook for December...Open water.
Outlook for January...Strips and patches of new and thin lake ice forming along the shore after mid-month. A narrow band of new and thin lake ice will form along the shore by the end of the month.
Outlook for February...A narrow band of new and thin lake ice occasionally within 10 nautical miles of the shore.

North-western Lake Huron near the Straits of Mackinac.

Outlook for December...Near the end of the month, new and thin lake ice in sheltered bays along the north shore.
Outlook for January...After mid-month, consolidated thin lake ice along the north shore. In the third week, very close pack thin with some medium lake ice from Bois Blanc Island westward into the Straits of Mackinac.
Outlook for February...In the first week, consolidated medium lake ice along the north shore and south and west of Bois Blanc Island into the Straits of Mackinac. Consolidated thick lake ice along the north shore and south and west of Bois Blanc Island into the Straits of Mackinac. Strips and patches of thin lake ice with some medium lake ice to the north and to the east of Bois Blanc Island.

From north-western Lake Huron to Saginaw Bay.

Outlook for December...Isolated patches of new lake ice along the shore by mid-month.
Outlook for January... In the second week, a band of new and thin lake ice forming within 15 nautical miles of the shore.
Outlook for February...A band of new and thin lake ice with some medium lake ice within 20 nautical miles of the shore.

Saginaw Bay.

Outlook for December...Very open drift to open drift new and thin lake ice in the fourth week.
Outlook for January...Open drift thin lake ice in the first week. Close pack to very close pack thin lake ice by mid-month. By the end of the month, the bay will be consolidated with medium lake ice.
Outlook for February...Consolidated with medium lake ice becoming thick lake ice in the second week.

The southern and eastern shore of Lake Huron.

Outlook for December...Generally open water with isolated patches of new ice forming along the shores near the end of the month.

Outlook for January...Narrow areas of new and thin lake ice along the shore. At the end of the month, thin lake ice with some medium lake ice forming within 15 nautical miles of the eastern and southern shores. Consolidated medium lake ice developing in sheltered bays along the Bruce Peninsula.

Outlook for February...In the second week, close to very close pack thin and medium lake ice over the extreme southern end of the lake. Areas of thick lake ice along portions of the shore by the end of the month.

Georgian Bay.

Outlook for December...New and thin lake ice forming in sheltered bays along the eastern shore by mid-month. Consolidated thin lake ice forming along the north-eastern shore in the last week.

Outlook for January...Consolidated thin lake ice forming along the north-eastern shore in the first week thickening to consolidated medium lake ice by mid-month. In the third week, a band of new and thin lake ice forming 20 to 30 nautical miles of the northern and eastern shores.

Outlook for February...Consolidated ice will thicken to the thick lake ice stage in the second week. Thin and medium lake ice developing within 30 nautical miles of the north shore. In the third week, very close pack thin and medium lake ice over northern and eastern sections of the bay. Elsewhere, open drift thin and medium lake ice over the bay. An area of open water will frequently be present over the south-western section of the bay.

Elsewhere in Lake Huron.

Outlook for December...Ice free.

Outlook for January...Ice free to open water.

Outlook for February...Occasional patches of thin and medium lake ice except open water over the central section of the lake.

Lake Erie and Lake St. Clair

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Lake St Clair and the Western Basin.

Outlook for December...After mid-month, new and thin lake ice forming in the eastern portion of Lake St. Clair and in sheltered bays in the Western Basin.

Outlook for January...In the second week, very open drift to open drift new and thin lake ice over the Western Basin and Lake St Clair. Consolidated thin lake ice in Sandusky Bay by mid-month and close to very close pack thin and medium lake ice over Lake St Clair and the Western Basin. Consolidated medium lake ice forming over the eastern portion of Lake St Clair near the end of the month.

Outlook for February...Very close pack medium lake ice. By mid-month, very close pack medium lake ice with some thick lake ice. Areas of consolidated thick and medium lake ice forming in sheltered bays and over the eastern portion of Lake St Clair by mid-month.

The rest of Lake Erie.

Outlook for December...By the end of the month, open drift new and thin lake ice in Long Point Bay.

Outlook for January...After mid-month, narrow bands of new and thin lake ice along portions of the shore and consolidated medium lake ice in Long Point Bay. Near the end of the month, close pack to very close pack new and thin lake ice with some medium lake ice over the western portion of the lake. Elsewhere, bands of new and thin lake ice along the shores except very close pack medium lake ice near Buffalo.

Outlook for February...Close to very close pack medium lake ice with some thick lake ice in the second week. In the third week, consolidated thick lake ice near Buffalo and in Long Point Bay.

Lake Ontario.

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Northeastern Lake Ontario.

Outlook for December...Isolated areas of new and thin lake ice in sheltered bays near the end of the month.

Outlook for January...In the second week, open drift to very open drift new lake ice with some thin lake ice from Kingston and eastward. In the fourth week, strips and patches of new and thin lake ice along the shore near Trenton and eastward. Close to very close pack thin lake ice with some medium lake ice over the north-eastern section. Very close pack medium lake ice in the St Lawrence River and in sheltered bays.

Outlook for February...By the end of the first week, close to very close pack thin lake ice with some medium lake ice over the north-eastern section. Patches of new and thin lake ice along the shores of Prince Edward County westward to near Trenton. Consolidated medium lake ice thickening to thick lake ice near mid-month.

Bay of Quinte.

Outlook for December...Very close pack thin lake ice near the end of the month.

Outlook for January...In the first week, consolidated thin lake ice. Thin lake ice thickening to medium lake ice after mid-month.

Outlook for February...Consolidated medium lake ice thickening to thick lake ice near mid-month.

Elsewhere in Lake Ontario.

Outlook for December...Ice free to open water.

Outlook for January... Ice free to open water. Isolated patches of new ice forming along the shores after mid-month.

Outlook for February... Isolated areas of new lake ice along the shores.

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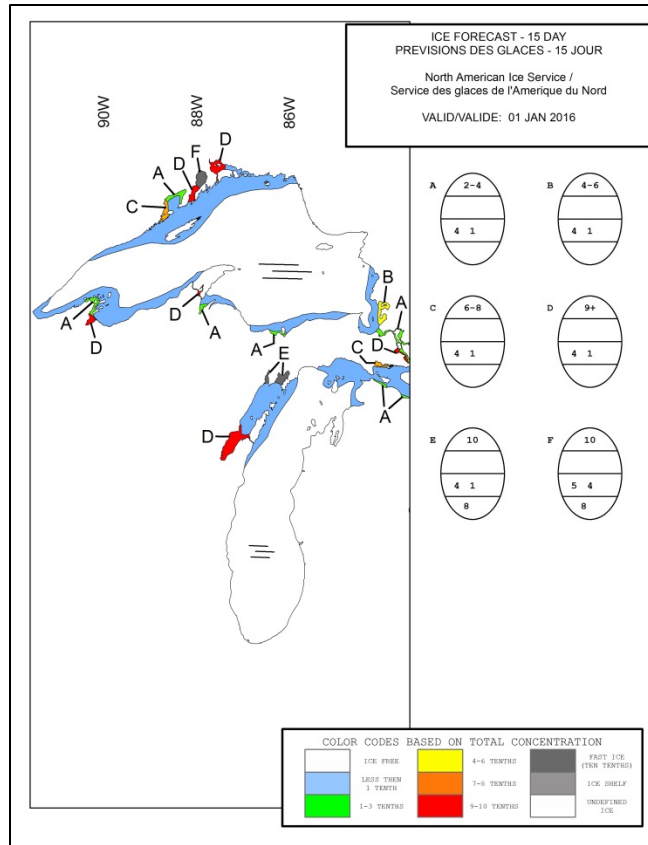


Figure 1: Expected ice conditions – western Great Lakes – 1 January 2016

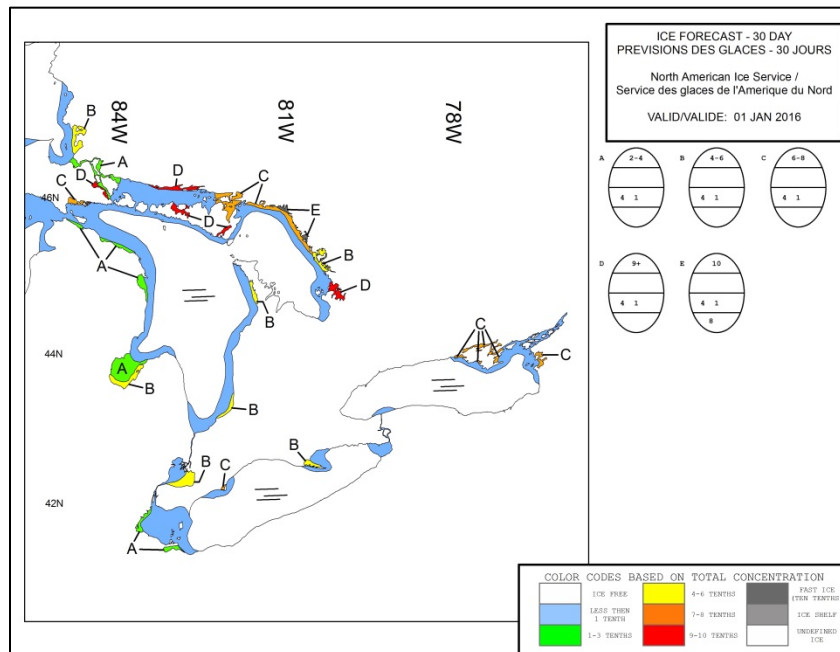


Figure 2: Expected ice conditions – eastern Great Lakes – 1 January 2016

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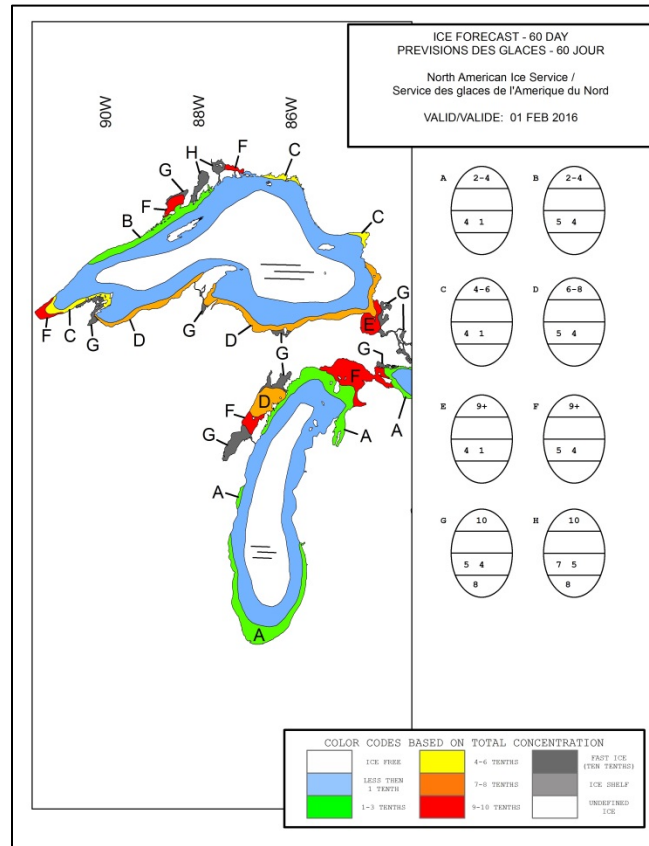


Figure 3: Expected ice conditions – western Great Lakes – 1 February 2016

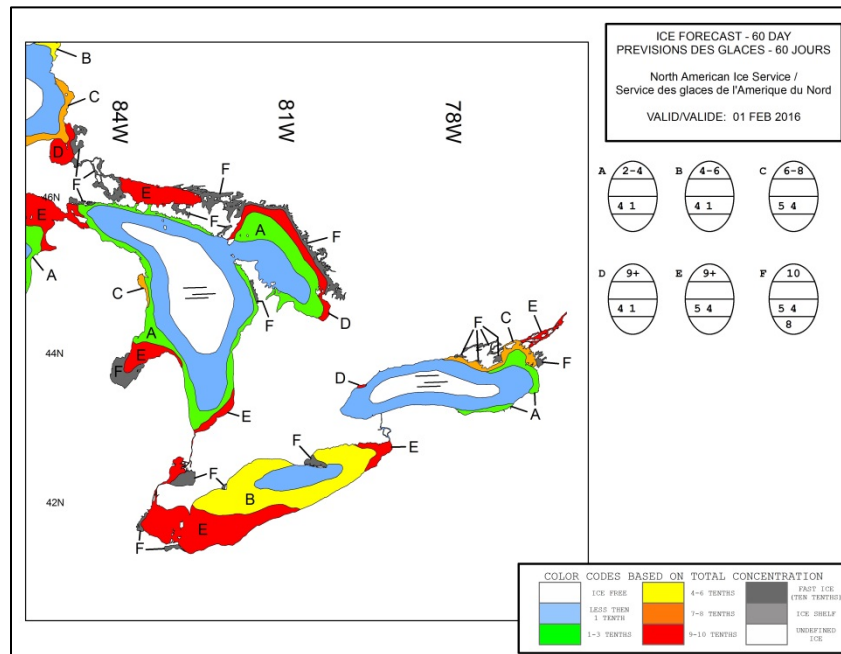


Figure 4: Expected ice conditions – eastern Great Lakes – 1 February 2016

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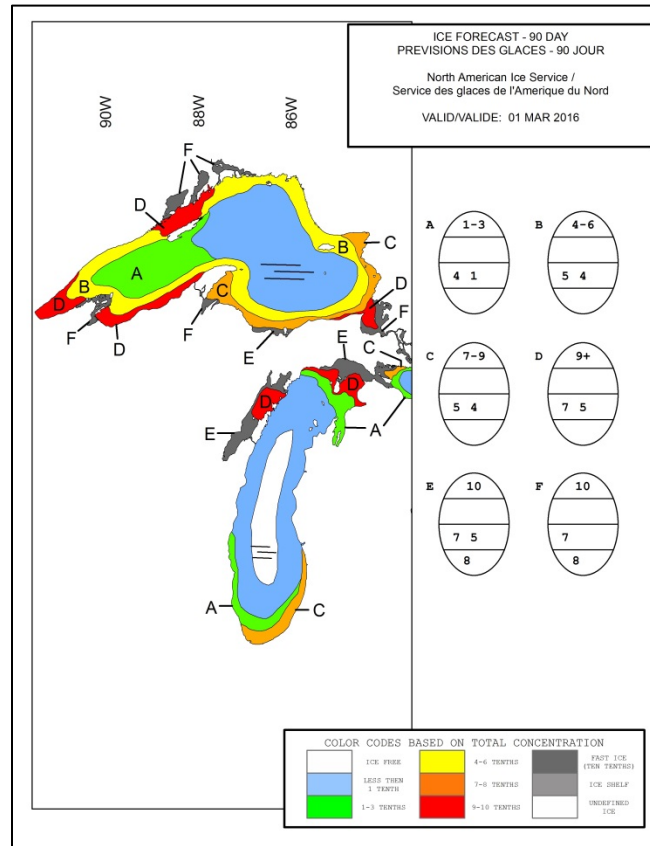


Figure 5: Expected ice conditions – western Great Lakes – 1 March 2016

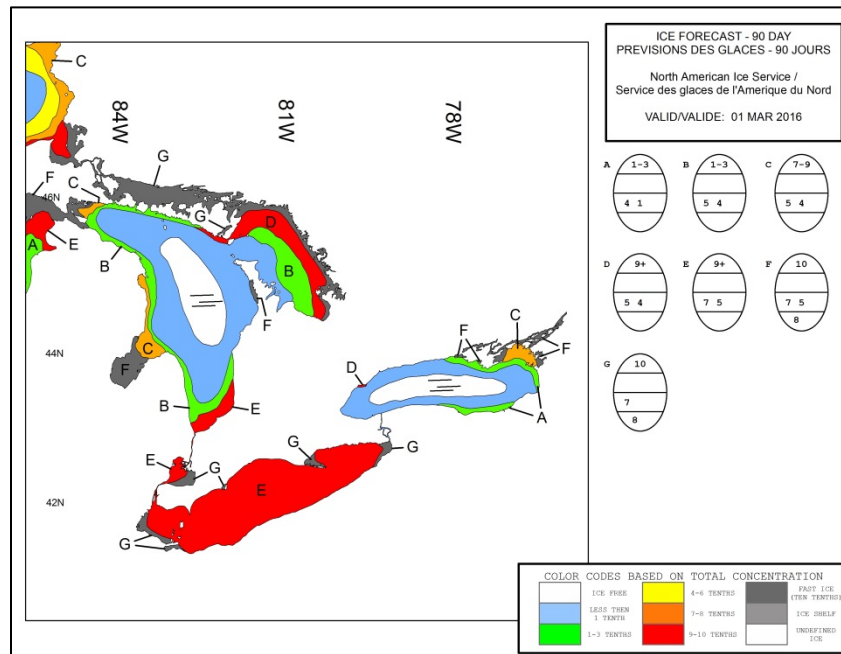


Figure 6: Expected ice conditions – eastern Great Lakes – 1 March 2016

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